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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,543	07/08/2003	Donald Justus	2003-IP-010083U1	9027

7590 09/22/2005

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EXAMINER	
FULLER, BRYAN A	

ART UNIT	PAPER NUMBER
3676	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/615,543	JUSTUS ET AL.	
	Examiner	Art Unit	
	Bryan A. Fuller	3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 7/11/05, 8/15/05, & 9/1/05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to the applicant's amendment filed 8/10/2005. Claims 1 – 60 have been finally rejected.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 2, 4, 14 – 15, 21 – 22, 24, 34, 41 – 42, and 54 – 55 are rejected under 35 U.S.C. 102(b) as being anticipated by Nguyen et al (6,209,643).

With respect to claims 1 – 2, 4, 14 – 15, 21 – 22, 24, 34, 41 – 42, and 54 – 55: Nguyen et al teaches in column 4, line 3 – column 9, line 41 a method of treating a subterranean formation comprising: providing a servicing fluid comprising a reduced-density particulate having a surface and a coating wherein the surface comprises a porous or partially hollow geometry and coating is capable of trapping a fluid between the surface and the coating; and, introducing the servicing fluid into the subterranean formation.

Additionally, Nguyen et al teaches a method of fracturing a subterranean formation comprising: providing a fracturing fluid comprising a reduced-density particulate having a surface and a coating wherein the surface comprises a porous or

partially hollow geometry and coating is capable of trapping a fluid between the surface and the coating; introducing the fracturing fluid into the subterranean formation at a pressure sufficient to create or enhance at least one fracture therein; and removing the fracturing fluid while leaving at least a portion of the reduced-density particulate in the fracture.

Finally, Nguyen et al teaches a method of installing a gravel pack comprising: providing a gravel packing fluid comprising a reduced-density particulate having a surface and a coating wherein the surface comprises a porous or partially hollow geometry and coating is capable of trapping a fluid between the surface and the coating; and, introducing the gravel packing fluid to the well bore so that the reduced-density particulate forms at least a portion of a gravel pack substantially adjacent to the well bore.

Nguyen et al teaches the use of a resin-type coating material. In addition to this, Nguyen teaches the use of a tackifying coating material made from polyamides. The resin-type coating also includes a hardenable resin comprising phenol-aldehyde.

Nguyen teaches that an additional substrate material is present that may comprise glass, ceramic, carbon composites, natural or synthetic polymers or metal and the like in the form of fibers, flakes, ribbons, beads, shavings, platelets and the like. The examiner is taking Official Notice that it is well known in the art that glass, ceramic, carbon composites, natural or synthetic polymers or metal and the like in the form of fibers, flakes, ribbons, beads, shavings, platelets and the like are particulates as evidenced by Nguyen et al (6,302,207) in column 5, lines 57 – 62.

Nguyen et al does not expressly teach that a fluid is trapped in a coated particulate. However, it does teach a coated particulate, thus it is inherently capable of trapping a fluid.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3, 5 – 7, 12 – 13, 23, 25 – 27, 32 – 33, 35, 43 – 47, and 52 - 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al in view of Murphey et al (4,665,988).

With respect to claims 3, 5 – 7, 12 – 13, 23, 25 – 27, 32 – 33, 35, 43 – 47, and 52 – 53: Nguyen et al teaches the features as claimed except for the use of specific compounds as the hardening agent, silane coupling agent, and a surfactant with the hardening resin. Additionally, Nguyen et al does not teach the use of bisophenol A-epichlorohydrin as the resin nor does it teach the use of ethylene glycol butyl ether as a solvent. Murphey et al teaches in column 1, line 53 – column 11, line 26 the use of aromatic amines as a hardening agent, n-beta-(amine-ethyl)-gamma-aminopropyltrimethoxy silane as the silane coupling agent, and mixtures of cationic and

non-ionic surfactants. Murphey et al also teaches the use of bisophenol A-epichlorohydrin as the resin ethylene glycol butyl ether as a solvent. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nguyen's method by including the specific hardening agent, silane coupling agent, surfactant, resin and solvent in view of the teachings of Murphey et al. The motivation lies in the fact that the method of preparing the fill material used in subterranean formation allows for the maintenance of a desired permeability whereby communication to the formation is maintained and not substantially restricted.

5. Claims 8, 10, 48, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al in view of Hoogteijling et al (6,079,492).

With respect to claims 8, 10, 48, and 50: Nguyen et al teaches the features as previously claimed except for the use of a furan-based resin and a phenol-based resin. Hoogteijling et al teaches in column 4, lines 49 – 67 the use of a furan-based resin or the use of a phenol-based resin. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nguyen's method by including furan-based or phenol-based resins in view of the teachings of Hoogteijling et al. The motivation for this combination is that the hardening of these resins takes place very rapidly.

6. Claims 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al and Murphey et al as applied to claim 23 above, and further in view of Hoogteijling et al.

With respect to claims 28 and 30: Nguyen et al and Murphey et al teach the features as claimed except for the use of a furan-based or phenol-based resin. Hoogteijling et al teaches in column 4, lines 49 – 67 the use of a furan-based resin or the use of a phenol-based resin. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Nguyen's and Murphey's methods by including furan-based or phenol-based resins in view of the teachings of Hoogteijling et al. The motivation for this combination is that the hardening of these resins takes place very rapidly.

7. Claims 9, 11, 49, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al and Hoogteijling et al as applied to claims 8, 10, 48, and 50 above, and further in view of Acock et al (6,732,800).

With respect to claims 9, 11, 49, and 51: Nguyen et al and Hoogteijling et al teach the features as claimed except for the use of a specific solvent for the resin. Acock et al teaches in column 5, lines 21 - 37 the use of butyl acetate as a solvent for the resin. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Nguyen's and Hoogteijling's methods by including butyl acetate as a solvent for the resins in view of the teachings of Acock et al. The motivation for this combination is that the solvent reduces viscosity and removes water generated by the condensation of the resin.

8. Claims 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen, Murphey, and Hoogteijiling as applied to claims 23, 28, and 30 above, and further in view of Acock et al.

With respect to claims 29 and 31: Nguyen et al, Murphey et al, and Hoogteijling et al teach the features as claimed except for the use of a specific solvent for the resin. Acock et al teaches in column 5, lines 21 - 37 the use of butyl acetate as a solvent for the resin. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Nguyen's, Murphey's, and Hoogteijling's methods by including butyl acetate as a solvent for the resins in view of the teachings of Acock et al. The motivation for this combination is that the solvent reduces viscosity and removes water generated by the condensation of the resin.

9. Claims 16 – 18, 20, 36 – 38, 40, 56 – 58, and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al in view of Goodhue, Jr. et al (5,663,123).

With respect to claims 16 – 18, 20, 36 – 38, 40, 56 – 58, and 60: Nguyen et al teaches the features as previously claimed except for the use of a specific degradable polymer as the coating material and the use of a plasticizer. Goodhue, Jr. et al teaches in column 5, line 13 – column 8, line 59 the use of polysaccharide as a degradable polymer coating and the use of a plasticizer. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Nguyen's method by including polysaccharide as a degradable polymer coating and adding a plasticizer in view of the teachings of Goodhue, Jr. et al. The motivation for this combination is that these fluids are more functionally effective.

10. Claims 19, 39, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al and Goodhue, Jr. et al as applied to claims 16 – 17, 36 – 37, and 56 - 57 above, and further in view of Erbstoesser et al (4,387,769).

With respect to claims 19, 39, and 59: Nguyen et al and Goodhue, Jr. et al teach the features as previously claimed except for the use of poly(lactide) as the specific degradable polymer coating. Erbstoesser et al teaches in column 3, line 4 – column 4, line 20 the use of poly(lactide) as the degradable polymer coating. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Nguyen's and Goodhue, Jr.'s methods by including poly(lactide) as the degradable polymer coating in view of the teachings of Erbstoesser et al. The motivation for this combination is that these fluids will degrade to oligomers, which may be partially soluble in both water and oil.

Response to Arguments

Applicant's arguments filed 8/10/05 have been fully considered but they are not persuasive. Nguyen teaches a coated particulate that may also comprise an "additional material," which is referred to as a substrate material. This additional substrate material may comprise glass, ceramic, carbon composites, natural or synthetic polymers or metal and the like in the form of fibers, flakes, ribbons, beads, shavings, platelets and the like. (See Nguyen '643 at col. 4, ll. 21 – 28.) This "additional material" is particulates. The reference lists examples of particulate material as sand, ceramics, glass, sintered bauxite, resin coated sand, resin beads, metal beads and the like. (See

Nguyen '643 at col. 4, ll. 16 – 21.) The substrate material is also particulate material based on these examples. The reference goes on to disclose that the substrate material may be porous and coated. (See Nguyen '643 at col. 4, ll. 31 – 36.)

Nguyen et al does not expressly teach that a fluid is trapped in a coated particulate. However, it does teach a coated particulate, thus it is inherently capable of trapping a fluid.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan A. Fuller whose telephone number is (571) 272-8119. The examiner can normally be reached on M - Th 7:30 - 5:00 and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian E. Glessner can be reached on (571) 272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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